

**2004 RTP Performance Measures**

**TRANSPORTATION AND COMMUNICATIONS COMMITTEE ATTACHMENT #4.5**

**Thursday, April 3, 2003**

# REPORT

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**DATE:** April 3, 2003

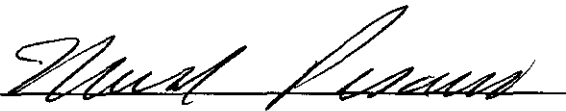
**TO:** Transportation and Communications Committee

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**SUBJECT:** 2004 RTP Performance Measures – Recommendations from RTP Technical Advisory Committee (TAC)

**EXECUTIVE DIRECTOR'S APPROVAL:**



## **RECOMMENDED ACTION:**

Approve the RTP TAC recommendations for the remainder of the performance measures for use in the 2004 RTP.

## **SUMMARY:**

### ***Recommended Performance Measures***

In January 2003, the Regional Council approved the goals for the 2004 RTP based upon the recommendations of the TCC and TAC. In March 2003, the TCC approved measures for mobility, accessibility, reliability, safety, environmental, cost effectiveness, geographic equity, and environmental justice goals and outcomes.

Since then, the TAC has reviewed and agreed to the measures for the remaining goals, namely: preservation, sustainability, and productivity. These last performance measures now recommended to the TCC for approval are:

- **Productivity:** It is recommended to use percent utilization during peak condition as the indicator. It is important to note that during severe congested conditions, roadway capacity utilization can be significantly lower than the design capacity. For transit, percent utilization will reflect the average load factor during peak conditions. This indicator will tell us if we are getting the most of our current infrastructure and services during peak demand conditions.
- **Preservation:** The TAC recommends using inflation adjusted cost per capita to maintain the current transportation system at current conditions. Over time, this measure and its trend will reflect whether we are taking care of our existing

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infrastructure. If the measure shows a substantial increase over time, it would mean that we are not taking care of our existing system and therefore the costs to get the system to current conditions is increasing over time.

- Sustainability: The TAC recommends using inflation adjusted cost per capita to maintain the current level of performance of our multi-modal transportation system. This measure and its trend over time will tell us whether our decisions are placing burdens on future generations. Note that preservation is a sub-set of sustainability.


## *Analysis Limitations*

The preservation and sustainability indicators require significant analysis on the part of all transportation agencies in the region. We do not anticipate that we will have the time to fully conduct this analysis before the development of the draft RTP this fall. However, we do have the current budgeted levels and can compute the current performance levels of the system. We can therefore establish a base and gain some understanding of the relative focus on preserving the current system and its performance. We can then monitor the trends over time and report on these measures periodically.

## **FISCAL IMPACT:**

Staff as well as consultant budget for this work is included in the current OWP.





Southern California Association of Governments

# Performance Measurement Framework

## Final Recommendations

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Status of Performance Measurement Framework

> Recommended by the TAC and approved by the TCC
 

- Mobility
- Accessibility
- Reliability
- Safety
- Environmental
- Geographic Equity
- Environmental Justice

> Recommended by the TAC for TCC approval
 

- Productivity
- Preservation
- Sustainability

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Productivity

> The related RTP goal is to:
 

- Maximize the productivity of our transportation system

> Productivity is generally a measure of output per unit of input

> Inputs in the RTP case are the transportation infrastructure capacity and services provided
 

- Capacity of roadways is communicated in vehicles per hour per lane and differs by type of facility
- Capacity of transit is communicated in terms of seating capacity

> Outputs in each case is presented in terms of capacity utilized

> The performance indicator recommended for productivity is the percent capacity utilized during peak conditions

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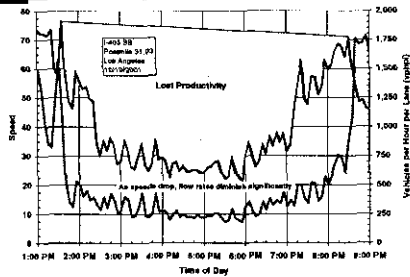
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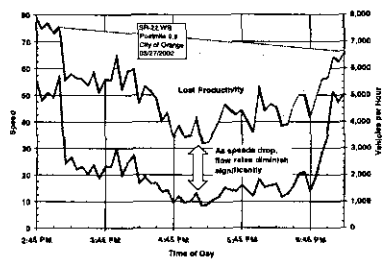
For the I-405 SB in Los Angeles, productivity can be as low as 50 to 60 percent during the pm peak period



Source: Performance Measurement System (PMS) - October 2001  
Y-axis: volume per lane per hour

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SR-22 in the City of Orange also shows productivity losses over 50 percent during the pm peak period



Source: Performance Measurement System (PMS) - October 2001

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For transit, boardings will be divided by the number of available seats

- > Peak load factor is used in the industry and can be used for productivity calculations
- > Over the entire peak period, boarding counts (required for FTA reporting) can be used to aggregate results
- > Travel demand models do not generally project load factors for transit or capacity loss for highways
- > Even though our tools do not forecast productivity, baseline results should influence decision making
- > Detailed simulation tools can forecast productivity, but are too resource intensive to use for the entire region.

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## Preservation and Sustainability

- > The revised RTP goal is to:
  - Preserve and ensure a sustainable regional transportation system
- > The recommended indicators are costs per capita to maintain base year levels of service
  - For preservation, the focus is on infrastructure condition
  - For sustainability, the focus is on overall performance, including infrastructure condition. Preservation measures are therefore a sub-set of sustainability measures.
- > Steps to calculate indicators:
  - Define aggregate elements for level of service (e.g., delay, asset condition)
  - Set a base year for level of service (similar to CPI)
  - Compare periodically and compute cost per capita to maintain level of service

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## Sustainability and preservation... conceptual calculation

- > Set 2000 (or another year) as base year
- > Identify aggregate levels of service for base year:
- > Example:
  - total delay for am and pm peak of 1.4 million hours per day
  - average reliability for region is X
  - identify average pavement condition for freeways, arterials, and asset condition for transit (to be determined for each)

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## Sustainability and preservation... conceptual calculation

- > Sustainability - Update periodically and calculate costs to maintain levels of service at 2000 levels per capita (adjusted for CPI)
- > Preservation - Update periodically and calculate costs to maintain infrastructure conditions at 2000 levels per capita (adjusted for CPI)
- > Interpretation of results:
  - results over 1 mean our system is less preserved or less sustainable
  - results less than 1 mean our system is more preserved or increasingly sustainable
- > For the 2004 RTP, we will use current expenditure levels to develop the base indicators.

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## Attachments



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## 2001 RTP Performance Measures (for reference purpose)



- > Mobility – Average Work Trip Travel Time, PM Peak Freeway Travel Speed, PM Peak Off-freeway Travel Speed, Percent of PM Peak Travel in Delay (freeways and off-freeways)
- > Accessibility – Work opportunities within 45 minutes door to door, average transit access time
- > Environment – CO, ROG, NOx, PM10, PM2.5
- > Reliability – Percent on time arrival
- > Safety – Fatalities and injuries per million PMT
- > Livable Communities – none
- > Equity/Environmental Justice – By income groups share of benefits
- > Geographic Equity – Expenditures versus benefits
- > Cost Effectiveness – Benefit Cost Ratio

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## 2004 Revised RTP Goals



- > Maximize mobility and accessibility for all people and goods in the region
- > Ensure travel safety and reliability for all people and goods in the region
- > Preserve and ensure a sustainable regional transportation system
- > Maximize the productivity of our transportation system
- > Protect the environment, improve air quality and promote energy efficiency
- > Encourage land use and growth patterns that complement our transportation investments

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